
मीठा संघनित दूध, मीठा संघनित
आंशिक मलाईरहित दूध, मीठा संघनित
मलाईरहित दूध एवं मीठा संघनित उच्च
वसायुक्त दूध — विशिष्टि
(तीसरा पुनरीक्षण)

Sweetened Condensed Milk,
Sweetened Condensed Partly
Skimmed Milk, Sweetened
Condensed Skimmed Milk and
Sweetened Condensed
High Fat Milk — Specification
(Third Revision)

ICS 67.100.10

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भारतीय मानक ब्यूरो
BUREAU OF INDIAN STANDARDS
मानक भवन, 9 बहादुरशाह ज़फर मार्ग, नई दिल्ली – 110002
MANAK BHAVAN, 9 BAHADUR SHAH ZAFAR MARG
NEW DELHI-110002
www.bis.gov.in www.standardsbis.in

FOREWORD

This Indian Standard (Third Revision) was adopted by the Bureau of Indian Standards, after the draft finalized by the Dairy Products and Equipment Sectional Committee had been approved by the Food and Agriculture Division Council.

Sweetened condensed milk, sweetened condensed partly skimmed milk, sweetened condensed skimmed milk and sweetened condensed high fat milk are produced by the evaporation in *vacuo* of milk either whole, partially skimmed, skimmed or reconstituted or recombined milk with suitable adjustment of milk solids and with the addition of sugar or a combination of sucrose with other sugars. The removal of water in this way leads to the possibility of the storage of the resulting products unchanged for an appreciable length of time. The products are preserved by their high sucrose content.

In addition to their wide use by individual consumers in the place of fluid milk, the products are also used in the manufacture of bakery products, confectionery, ice cream and other food products.

The requirement for lactose crystals as stipulated in the standard would ensure good texture of the products and should not be considered as a minimum requirement from health point of view.

This standard was first published in 1957 and revised in 1973 to incorporate a number of modifications due to technological developments in the field at that time. It was subsequently revised in 1986 to include the requirements for partly skimmed condensed milk, specify a new requirement for the absence of coagulase positive *Staphylococcus aureus* and modify the terminology 'full-cream condensed milk' as 'condensed milk'. This revision has been brought out to harmonize the specifications with the *Food Safety and Standards (Food Products Standards and Food Additives) Regulations, 2011* and Codex Standard for Condensed milk (CODEX STAN 282-1971). In this revision, the following major changes have been incorporated:

- a) Title has been modified;
- b) Description of the products has been revised;
- c) Requirement of fat content in sweetened condensed skimmed milk has been revised;
- d) Requirements of sweetened condensed high fat milk have been incorporated;
- e) Requirement of milk protein in milk solids not fat has been incorporated;
- f) Requirement of titratable acidity has been removed;
- g) Incubation time for the accelerated storage test has been reduced to 7 days;
- h) *Food Safety and Standards (Food Products Standards and Food Additives) Regulations, 2011* have been referred regarding the use of food additives; and
- j) Microbiological limits have been aligned with *Food Safety and Standards (Food Products Standards and Food Additives) Regulations, 2011*.

While formulating this standard, necessary consideration has been given to the relevant rules prescribed by the Government of India under the *Food Safety and Standards Act, 2006* and the Rules framed thereunder and the *Legal Metrology (Packaged Commodities) Rules, 2011*. This standard is however, subject to the restriction imposed under these, wherever applicable.

The composition of the Committee responsible for formulation of the standard is given in Annex F.

For the purpose of deciding whether a particular requirement of this standard is complied with the final value, observed or calculated, expressing the result of a test or analysis shall be rounded off in accordance with IS 2 : 1960 'Rules for rounding off numerical values (*revised*)'. The number of significant places retained in the rounded off value should be the same as that of the specified value in this standard.

Indian Standard

SWEETENED CONDENSED MILK, SWEETENED CONDENSED PARTLY SKIMMED MILK, SWEETENED CONDENSED SKIMMED MILK AND SWEETENED CONDENSED HIGH FAT MILK — SPECIFICATION

(*Third Revision*)

1 SCOPE

1.1 This standard prescribes the requirements and the methods of test for sweetened condensed milk, sweetened condensed partly skimmed milk, sweetened condensed skimmed milk and sweetened condensed high fat milk.

1.1.1 This standard does not apply to any form of concentrated milk not packed in sealed unit containers, intended for dilution into standardized, toned, double-toned or skimmed milk.

2 REFERENCES

The standards given below contain provisions which, through reference in this text, constitute provisions of this standard. At the time of publication, the editions indicated were valid. All standards are subject to revision, and parties to agreements based on this standard are encouraged to investigate the possibility of applying the most recent editions of these standards:

<i>IS No.</i>	<i>Title</i>	<i>IS No.</i>	<i>Title</i>
1151 : 2021	Refined sugar — Specification (<i>third revision</i>)	5401 (Part 1) : 2012/ ISO 4832 : 2006	Microbiology of food and animal feeding stuffs — Horizontal method for the detection and enumeration of coliforms: Part 1 Colony count technique (<i>second revision</i>)
2491 : 2013	Food hygiene — General principles — Code of practice (<i>third revision</i>)	5402 (Part 1) : 2021/ ISO 4833-1 : 2013	Microbiology of food and animal feeding stuffs — Horizontal method for the enumeration of microorganisms: Part 1 Colony count at 30 °C by the pour plate technique (<i>third revision</i>)
1479 (Part 2) : 1961	Method of test for dairy industry: Part 2 Chemical analysis of milk	5403 : 1999	Method for yeast and mould count of food stuffs and animal feeds (<i>first revision</i>)
4079 : 1967	Specification for canned <i>rasogolla</i>	5887 (Part 1) : 1976	Methods for detection of bacteria responsible for food poisoning Isolation, identification and enumeration of <i>Escherichia Coli</i>
4905 : 2015/ ISO 24153 : 2009	Random sampling and randomization procedures (<i>first revision</i>)	(Part 3/Sec 1) : 2020/ ISO 6579-1 : 2017	Horizontal method for the detection, enumeration and serotyping of <i>Salmonella</i> , Section 1 Detection of <i>Salmonella</i> spp. (<i>third revision</i>)
5126 : 2016/ ISO 5492 : 2008	Sensory analysis — Vocabulary (<i>second revision</i>)	(Part 8/Sec 1) : 2002/ ISO 6888-1 : 1999	Horizontal method for enumeration of coagulase-positive Staphylococci (<i>Staphylococcus aureus</i> and other species), Section 1 Technique using Baird-Parker agar medium

<i>IS No.</i>	<i>Title</i>	<i>IS No.</i>	<i>Title</i>
(Part 8/Sec 2) : 2002/ ISO 6888-2 : 1999	Horizontal method for enumeration of coagulase-positive <i>Staphylococcus aureus</i> and other species), Section 2 Technique using rabbit plasma fibrinogen agar medium	14988 (Part 1) : 2002/ISO 11290-2 : 1998	Microbiology of food and animal feeding stuffs — Horizontal method for detection and enumeration of <i>Listeria monocytogenes</i> : Part 1 Detection method
9991 : 1981	Specification for condensed milk cans	16195 : 2014/ ISO/TS 15495 : 2010	Milk, milk products and infant formulae — Guidelines for the quantitative determination of melamine and cyanuric acid by LC-MS MS
10029 : 1981	Methods for sensory evaluation of sweetened condensed milk	ISO 14501 : 2021	Milk and milk powder — Determination of aflatoxin M ₁ content — Clean-up by immunoaffinity chromatography and determination by high-performance liquid chromatography
10500 : 2012	Drinking water — Specification (<i>second revision</i>)	ISO 14674 : 2005	Milk and milk powder — Determination of aflatoxin M ₁ content — Clean-up by immunoaffinity chromatography and determination by thin-layer chromatography
11124 : 1984	Method for atomic absorption spectrophotometric determination of arsenic		
11546 : 2012/ ISO 707 : 2008	Milk and milk products — Guidance on sampling (<i>first revision</i>)		
11622 : 1986	Method for determination of total solids content in condensed milk		
11762 : 2013/ ISO 1737 : 2008	Evaporated milk and sweetened condensed milk — Determination of fat content — Gravimetric method (Reference method) (<i>second revision</i>)		
11917 : 2018/ ISO 8968-1 : 2014	Milk and milk products — Determination of nitrogen content — Kjeldahl principle and crude protein calculation (<i>first revision</i>)		
12074 : 1987	Method for determination of lead by atomic absorption spectrophotometer		
11764 : 2005/ ISO 2911 : 2004	Sweetened condensed milk — Determination of sucrose content — Polarimetric method (<i>first revision</i>)		
13688 : 2020	Packaged pasteurized milk — Specification (<i>second revision</i>)		

3 TYPES

The product shall be of the following four types based on the fat content:

- Sweetened condensed milk;
- Sweetened condensed partly skimmed milk;
- Sweetened condensed skimmed milk; and
- Sweetened condensed high fat milk.

4 REQUIREMENTS

4.1 The product shall be obtained by partial removal of water from milk (for definition and type of milk, see 3 and 4 of IS 13688) with the addition of sugar or a combination of sucrose with other sugars or by any other process which leads to a product of the same composition and characteristics. The fat and/or protein content of the milk may be adjusted only to comply with the compositional requirements given in Table 1, by addition and/or withdrawal of milk constituents in such a way as not to alter the whey protein to casein ratio

of the milk being adjusted. Product shall be free from added whey and whey preparations. The following milk products are allowed for protein adjustment purposes:

4.1.1 Milk Retentate

The product obtained by concentrating milk protein by ultrafiltration of milk, partly skimmed milk, or skimmed milk.

4.2 The products shall have whitish to light brown colour. The products shall have pleasant taste and the flavor of the products shall be pleasant and clean. These shall be free from rancid, fruity, moldy, tallowy, cooked, sour, sandy (*see* IS 5126) and any other objectionable odour and taste. These may be judged on the basis of their sensory characteristics (*see* IS 10029).

4.3 Sugar used in the manufacture of sweetened condensed milk, sweetened condensed partly skimmed milk and sweetened condensed skimmed milk shall be as per GMP levels and shall conform to IS 1151.

4.4 Potable water used in the manufacture of sweetened condensed milk, sweetened condensed partly skimmed milk and sweetened condensed skimmed milk shall conform to IS 10500.

4.5 The milk and/or milk solids used in the manufacture and the product may contain only permitted food additives within the limits as specified under the *Food Safety and Standards (Food Products Standards and Food Additives) Regulations, 2011*.

4.6 Size of Lactose Crystals

The product shall not have more than 30 percent of the lactose crystals of the size greater than 15 µm, when determined by the method given in Annex A.

4.7 The product shall also conform to the requirements given in Table 1 and Table 2.

4.8 The pesticide residues, antibiotic and veterinary drug residues, if any, in the product shall not exceed the limits as prescribed in the *Food Safety and Standards (Contaminants, Toxins and Residues) Regulations, 2011*.

4.9 Heavy metals and other contaminants or toxic substances (aflatoxin M₁ and melamine), if any, in the product shall not exceed the limits specified in Table 3.

Table 1 Requirements for Sweetened Condensed Milk, Sweetened Condensed Partly Skimmed Milk, Sweetened Condensed Skimmed Milk and Sweetened Condensed High Fat Milk

(Clauses 4.1 and 4.7)

Sl No.	Characteristic	Requirements for				Method of Test, Ref to
		Sweetened Condensed Milk	Sweetened Condensed Partly Skimmed Milk	Sweetened Condensed Skimmed Milk	Sweetened Condensed High Fat Milk	
(1)	(2)	(3)	(4)	(5)	(6)	(7)
i)	Total milk solids, percent by mass, <i>Min</i>	31.0	28.0	26.0	—	Annex B
ii)	Milk fat, percent by mass	Not less than 9.0	Not less than 1.0 and not more than 9.0	Not more than 1.0	Not less than 16.0	IS 11762
iii)	Milk solid not fat, minimum, percent by mass, <i>Min</i>	—	20.0	—	14.0	<i>see</i> Note
iv)	Milk protein in milk solids not fat, percent by mass, <i>Min</i>	34.0	34.0	34.0	34.0	IS 11917 ¹⁾
v)	Accelerated storage test	← To satisfy the requirements of the test →				Annex C

¹⁾ Estimate milk protein content by the method prescribed in IS 11917. Calculate milk solid not fat percentage by subtracting milk fat and moisture from 100.

Calculate milk protein in milk solid not fat, percent by mass as follows:

$$\text{Milk protein in milk solid not fat, percent by mass} = \frac{\text{Percent milk protein} \times 100}{\text{Percent milk solids not fat content}}$$

Table 2 Microbiological Requirements for Sweetened Condensed Milk, Sweetened Condensed Partly Skimmed Milk, Sweetened Condensed Skimmed Milk and Sweetened Condensed High Fat Milk
(Clause 4.7)

SI No.	Characteristic	Requirement				Method of test, Ref to ²⁾
		Sampling Plan ¹⁾		Limit (cfu)		
		<i>n</i>	<i>c</i>	<i>m</i>	<i>M</i>	
(1)	(2)	(3)	(4)	(5)	(6)	(7)
i)	Aerobic plate count	5	3	5 × 10 ² /g	1 × 10 ³ /g	IS 5402 (Part 1)
ii)	Coliform count	5	0	< 10/g	—	IS 5401 (Part 1)
iii)	<i>Staphylococcus aureus</i> (Coagulase positive)	5	0	< 10/g	—	IS 5887 (Part 8/Sec 1* or Sec 2)
iv)	Yeast and mould count	5	0	< 10/g	—	IS 5403
v)	<i>Salmonella sp.</i> ³⁾	5	0	Absent/25 g	—	IS 5887 (Part 3/Sec 1)
vi)	<i>Listeria monocytogenes</i>	5	0	Absent/g	—	IS 14988 (Part 1)
vii)	<i>E. coli</i>	5	0	Absent/g	—	IS 5887 (Part 1)

NOTES

¹⁾ For sampling plan see Annex D.

²⁾ In case of dispute, methods indicated by '*' shall be the referee method.

³⁾ The requirement for *Salmonella* shall be tested in a laboratory situated away from the production area.

Table 3 Limits of Heavy Metals and Other Contaminants or Toxic Substances
(Clause 4.9)

SI No.	Contaminant/toxin	Limit	Method of Test, Ref to
(1)	(2)	(3)	(4)
i)	Lead, ppm, <i>Max</i>	$0.02 \times \text{concentration factor}$	IS 12074
ii)	Arsenic, ppm, <i>Max</i>	$0.1 \times \text{concentration factor}$	IS 11124
iii)	Aflatoxin M ₁ , ppb, <i>Max</i>	$0.5 \times \text{concentration factor}$	ISO 14501 or ISO 14674 or any other international validated method
iv)	Melamine, ppm, <i>Max</i>	2.5	IS 16195

NOTE — Concentration factor shall be as communicated by the manufacturer, based on the recipe of the product.

4.10 Hygienic Conditions

The products shall be manufactured and packed under hygienic conditions as per IS 2491.

5 PACKING

The product shall be packed in quantities as stipulated under the *Legal Metrology (Packaged Commodities) Rules, 2011* as well as in accordance with requirements under the *Food Safety and Standards (Packaging) Regulations, 2018*. The product shall be packed in clean and sound containers (*see* IS 9991) or in thermoformed cups/blister packs made of polystyrene with top cap/closure made out of metalized polyester film or aluminium foil coated with food grade lacquer or in tetrapacks or collapsible tubes or in barrels of adequate mechanical strength capable of withstanding the normal handling and transportation in such a way as to protect it from deterioration. The packaging shall be hermetically sealed.

6 MARKING

6.1 Each container shall be legibly and indelibly marked with the following particulars:

- Name and type of the product and brand name, if any;
- Name and address of the manufacturer;
- Month and year of manufacturing or packing;
- Batch or code number;
- Net quantity;
- Expiry/Use by date;
- Best for consumption up to(month and year in capital letters);

OR

Best for consumption within(months) from the date of packing/manufacture;

- Levels of fortification of vitamins, if done;

- j) The contents of this container, on reconstitution as per the directions, in litre(s) of standardized, toned, double toned or skimmed milk with added sugar (depending upon the type of the material); and
- k) Any other requirements under the *Legal Metrology (Packaged Commodities) Rules, 2011* and the *Food Safety and Standards (Labelling and Display) Regulations, 2019*.

6.2 BIS Certification Marking

The product(s) conforming to the requirements of this standard may be certified as per the conformity assessment schemes under the provisions of the *Bureau of Indian Standards Act, 2016* and the Rules and Regulations framed thereunder, and the products may be marked with the Standard Mark.

7 SAMPLING

Representative samples of the product shall be drawn and tested for conformity to this standard as prescribed in Annex E.

ANNEX A

(Clause 4.6)

MEASUREMENT OF SIZE AND COUNT OF LACTOSE CRYSTALS

A-1 APPARATUS

A-1.1 Depression Slide

A-1.2 Microscope

A-1.3 Ocular Lens and Circular Glass Pieces —

Marked with a number of tiny uniform squares. Ocular scale shall be standardized with the stage micrometer to get readings in terms of microns. The circular glass piece and ocular lens shall be then fitted inside the eye piece.

A-2 PROCEDURE

A-2.1 Preparation of the Slide

Place a small drop of well mixed sample (*see E-3.2.1*) with the help of spatula on a clean depression slide. Spread the sample evenly on the slide. Transfer a small

portion of the sample on a clear slide and cover with a cover slip. Press the cover slip with the forefinger till a uniform thin film is formed in between the slide and cover slip. Soon after the preparation of the slide, observe the slide under the microscope first under low power and then under high power lens.

A-2.2 Measurement and Count of Crystals

On an average, 30 squares in the same field or just adjacent to the first counted field, where required, are taken for measurement of lactose crystals. Count the number of crystals in each square and note the measurement according to their size as less than 10, 10 to 12, 13 to 15, 16 to 25 and over 25 μm . Repeat the same procedure for all 30 squares. Add the total number of crystals under each range and calculate the percentage.

ANNEX B

[Table 1, SI No. (i)]

DETERMINATION OF TOTAL MILK SOLIDS

B-0 GENERAL

Two methods have been specified. Method 1 may be used for routine analysis whereas Method 2 may be used in case of dispute.

B-1 METHOD 1

In order to determine total milk solids, determine the total solids by the method prescribed in IS 11622 and subtract the percentage by mass of sucrose in the material (*see Note*).

NOTE — Two methods, one polarimetric as given in IS 11764 and the other volumetric as given in C-2 of IS 4079 have been prescribed for the determination of sucrose. The polarimetric

method shall be used for routine purposes, and for reference purposes, the volumetric (Lane-Eynon) method shall be used.

B-2 METHOD 2

B-2.1 In case of dispute, total milk solids should be determined by adding percentages of fat, protein, lactose and ash in the material. Percentage of fat shall be as determined in IS 11762 and of protein as determined in IS 11917. Methods for determination of lactose and ash shall be as given under 13 and 16, respectively of IS 1479 (Part 2).

B-2.2 The methods described under **B-1** and **B-2** should agree within an error of 0.2 percent of milk solids-not-fat or 0.3 percent of total milk solids content.

ANNEX C

[Table 1, Sl No. (v)]

ACCELERATED STORAGE TEST

C-1 GENERAL

The purpose of this test is to determine the shelf life of the product. In order that the period of the test is shortened, the possible existent microorganisms and their spores are given the optimum temperature at which they thrive. If they do not show their presence even at the end of this test, the material passes the test.

C-2 PROCEDURE

Incubate the samples at a temperature of 37 ± 1 °C for 7 days. The samples shall pass the test if:

- a) the package does not show any bulge due to positive pressure within; and
- b) the product inside the can has not curdled or thinned and is free from any objectionable taste, odour and sliminess.

ANNEX D

(Table 2)

SAMPLING PLAN FOR MICROBIOLOGICAL REQUIREMENTS

D-1 SAMPLING PLAN FOR MICROBIOLOGICAL REQUIREMENTS

The terms n , c , m and M used in this standard have the following meaning:

- n = Number of units comprising a sample;
- c = Maximum allowable number of units having microbiological counts above m for 2-class sampling plan and between m and M for 3-class sampling plan;

m = Microbiological limit that separates unsatisfactory from satisfactory in a 2-class sampling plan or acceptable from satisfactory in a 3-class sampling plan; and

M = Microbiological limit that separates unsatisfactory from satisfactory in a 3-class sampling plan.

D-2 INTERPRETATION OF RESULTS

2-Class Sampling Plan (where n , c and m are specified)	3-Class Sampling Plan (where n , c , m and M are specified)
1. Satisfactory, if all the values observed are $\leq m$ 2. Unsatisfactory, if one or more of the values observed are $> m$ or more than c values are $> m$	1. Satisfactory, if all the values observed are $\leq m$ 2. Acceptable, if a maximum of c values are between m and M and the rest of the values are observed as $\leq m$ 3. Unsatisfactory, if one or more of the values observed are $> M$ or more than c values are $> m$

ANNEX E

(Clause 7)

SAMPLING OF SWEETENED CONDENSED MILK, SWEETENED CONDENSED PARTLY SKIMMED MILK AND SWEETENED CONDENSED SKIMMED MILK

E-1 GENERAL REQUIREMENTS

E-1.0 In drawing, preparing, storing and handling test samples, in addition to the following precautions and directions, those given in 4 and 10 of IS 11546, should as far as possible be observed.

E-1.1 Precautions shall be taken to protect the samples, material being sampled, sampling instrument and the containers for samples from extraneous contamination.

E-1.2 The sample containers shall be of such a size that sufficient head space is allowed for expansion at the top. This space shall not be too large as air exerts detrimental action. The samples shall be kept in a manner so that they do not deteriorate in composition before analysis.

E-1.3 The sample containers shall be labelled to give the nature of the product, the date of sampling, the number of samples taken from the lot and the size of the lot.

E-2 SCALE OF SAMPLING

E-2.1 Lot

All the containers, in a single consignment, of the same size shall constitute a lot. If the consignment is declared to consist of different batches of manufacture, the batches shall be marked separately and the groups of containers in each batch shall constitute separate lots.

E-2.1.1 For ascertaining the conformity of the material to the requirements of this specification, samples shall be tested from each lot separately.

E-2.2 The number of containers to be selected from a lot shall depend on the size of the lot, quantity of

material in the container and shall be as given in Table E-1.

E-2.3 These containers shall be selected at random from the lot. In order to ensure the randomness of selection, procedures given in IS 4905 may be followed.

E-2.4 In addition to the containers selected according to E-2.2 and E-2.3, two more containers shall be selected at random from the lot for testing the shelf-life and microbiological requirements.

E-3 TEST SAMPLES AND REFERENCE SAMPLES

E-3.1 On storage of condensed milk, separation of the constituents such as fat, lactose may occur. It is necessary to mix the contents of the container prior to analysis and for this purpose the procedure given in E-3.1.1 is recommended.

E-3.1.1 Heat the container in a water-bath at about 40 °C until the sample has nearly reached this temperature. Open the container at the edge of the lid. Reincorporate all the material adhering to the lid into the container. Mix the contents thoroughly by stirring with a spoon or spatula in such a way that the top layers as well as contents of the lower corners are moved and mixed. Repeat the stirring before drawing the sample for testing various characteristics (other than shelf-life and microbiological) in the specification.

E-3.2 Preparation of Individual Samples

The number of containers given in col 2 or 4 of Table 2, whichever is applicable shall be taken from the lot and contents of each of these containers shall be mixed thoroughly according to the procedure given in E-3.1. Draw with a suitable sampling instrument

Table E-1 Number of Containers to be Selected for Sampling

(Clauses E-2.2 and E-3.2)

For Containers of 400 g and Up to 5 kg		For Containers of More than 5 kg and up to 20 kg	
Number of Containers in the Lot	For Tests other than Microbiological Tests	Number of Containers in the Lot	For Tests other than Microbiological Tests
(1)	(2)	(3)	(4)
Up to 300	3	Up to 100	2
301 to 500	5	101 to 300	3
501 to 1 000	7	301 to 500	4
1 001 and above	10	501 and above	5

NOTE — The scale of sampling for containers of 200 g and above 20 kg shall be as agreed to between the purchaser and the vendor.

approximately equal quantities of material from different parts of the same container till about 150 g of material is obtained. This shall be divided into three equal parts. Each part so obtained shall constitute an individual sample representing the container and shall be transferred immediately to thoroughly clean and dry container, sealed air-tight with the particulars given in E-1.5. The individual samples so obtained shall be divided into three sets in such a way that each set has a sample representing each selected container. One of these sets shall be marked for the purchaser, another for the vendor and the third for the referee.

E-3.3 Preparation of Composite Sample

From the material from each selected container, remaining after the individual sample has been taken, approximately equal quantities of material shall be taken and mixed thoroughly so as to form a composite sample weighing about 200 g. This composite sample shall be divided into three equal parts and transferred to clean and dry containers, sealed air-tight and labeled with the particulars given in E-1.5. One of these composite samples shall be for the purchaser, another for the vendor and the third for the referee.

E-3.4 Samples for Shelf-Life and Microbiological Requirements (see 10.3.1 of IS 11546)

For preparing the test sample for shelf-life and microbiological requirements, the procedure given in E-3.4.1 shall be followed for each of the containers selected according to E-2.4.

E-3.4.1 Sterilize the edge of the lid all round with alcohol and open the lid aseptically. Introduce a sterile pipette, mix contents thoroughly by repeated drawing and releasing the condensed milk through the pipette, take about 100 g of material and transfer to a sterile sample bottle containing the diluent.

E-3.4.2 One of the sample containers selected for shelf-life and microbiological tests (see E-2.4) shall be labelled as 'sample for shelf-life' and the other sample container labelled as 'sample for bacterial count, coliform count, yeast and mould count and *Staphylococcus aureus*'. These containers shall be divided into three equal sets and labelled with all the particulars of sampling given in E-1.5. One of these sets of sample containers shall be for the purchaser,

another for the vendor and the third for the referee. Sample shall be stored in a refrigerator (below 5 °C) till required for analysis to prevent any changes in microflora.

E-3.5 Referee Samples

Referee samples shall consist of a set of individual samples (E-3.2), composite sample (E-3.3) and a set of samples for shelf-life and microbiological examination (E-3.4) marked for this purpose and shall bear the seals of the purchaser and the vendor. These shall be kept at a place agreed to between the purchaser and the vendor so as to be used in case of a dispute between the two.

E-4 NUMBER OF TESTS

E-4.1 Tests for the determination of total milk solids, fat and sucrose shall be conducted on each of the samples constituting a set of individual samples.

E-4.2 Tests for colour, flavour and taste and titratable acidity shall be conducted on the composite sample.

E-4.3 Tests for shelf-life, bacterial count, coliform count, yeast and mould count and *Staphylococcus aureus* shall be conducted on the respective samples (see E-3.4.2) constituting a set of test samples labelled with the words 'sample for shelf-life' and 'sample for bacterial count, coliform count, yeast and mould count and *Staphylococcus aureus*'.

E-5 CRITERIA FOR CONFORMITY

E-5.1 The lot shall be declared as conforming to all the requirements of the specification if E-5.1.1 to E-5.1.3 are satisfied.

E-5.1.1 The test results on each of the individual samples for the determination of requirements given in E-4.1 shall satisfy the corresponding specification requirements.

E-5.1.2 The test results on the composite sample for the requirements given in E-4.2 shall satisfy the corresponding specification requirements.

E-5.1.3 The test results for shelf-life, bacterial count, coliform count, yeast and mould count, and *Staphylococcus aureus* (see E-4.3) shall satisfy the corresponding specification requirements.

ANNEX F

(Foreword)

COMMITTEE COMPOSITION

Dairy Products and Equipment Sectional Committee, FAD 19

<i>Organization</i>	<i>Representative(s)</i>
National Dairy Research Institute, Karnal	DR MANMOHAN SINGH CHAUHAN (Chairman)
All India Food Processors Association, New Delhi	DR K. L. GABA MR VIJAY GAUR (<i>Alternate</i>)
Bihar State Cooperative Milk Producers' Federation Ltd, (COMPED), Patna	MR SUSHIL KUMAR MR RUPESH RAJ (<i>Alternate</i>)
Confederation of Indian Food Trade and Industry, New Delhi	MS PRIYANKA SHARMA DR ANIRUDHA CHHONKAR (<i>Alternate</i>)
Confederation of Indian Industry, New Delhi	MS NEHA AGGARWAL MS ARTI GUPTA (<i>Alternate</i>)
Centre for Analysis and Learning in Livestock and Food (CALF), Anand	DR RAJESH NAIR DR RAJEEV CHAWLA (<i>Alternate</i>)
Directorate of Marketing and Inspection, Faridabad	DEPUTY AGRICULTURAL MARKETING ADVISER SENIOR MARKETING OFFICER-STANDARD
Export Inspection Council of India, New Delhi	DR J. S. REDDY MR KUMAR NARENDER (<i>Alternate</i>)
Envirocare Labs Pvt Ltd, Thane	DR NILESH AMRITKAR MS SABEENA K. (<i>Alternate</i>)
Food Safety and Standards Authority of India, New Delhi	DR MONICA PUNIYA MS TRIPTI TAYAL (<i>Alternate</i>)
Gujarat Cooperative Milk Marketing Federation Ltd, Anand	MR SAMEER SAXENA MR SAYAN BANERJEE (<i>Alternate</i>)
IDMC Ltd, Anand	MR DEVENDER GUPTA MR PRAKASH MAHESHWARI (<i>Alternate</i>)
Indian Dairy Association, New Delhi	DR G. S. RAJORHIA DR SATISH KULKARNI (<i>Alternate</i>)
Indian Stainless Steel Development Association, Gurugram	MR ROHIT KUMAR MR RAJAT AGGARWAL (<i>Alternate</i>)
Jupiter Glass Works, New Delhi	MR KARAN NANGIA MR AMREEK SINGH PURI (<i>Alternate</i>)
Ministry of Fisheries, Animal Husbandry and Dairying, Department of Animal Husbandry and Dairying, New Delhi	MR C. SEN MR GOUTAM KUMAR DEB (<i>Alternate</i>)
Mother Dairy Fruit and Vegetable Ltd, Delhi	DR NITA SEN MR SHAILENDER KUMAR (<i>Alternate</i>)
National Dairy Development Board, Anand	MR S. D. JAISINGHANI MR SURESH PAHADIA (<i>Alternate</i>)
National Dairy Research Institute, Karnal	DR VIVEK SHARMA DR RAJESH KUMAR BAJAJ (<i>Alternate</i>)
National Institute of Food Technology Entrepreneurship & Management (NIFTEM), Sonapat	DR P. K. NEMA

<i>Organization</i>	<i>Representative(s)</i>
National Institute of Nutrition, Hyderabad	DR B. SANTOSH KUMAR DR SYLVIA FERNANDEZ RAO (<i>Alternate</i>)
Punjab State Coop. Milk Producers' Federation Limited.	DR SANJEEV KUMAR SHARMA
Rajasthan Co-op Dairy Federation (RCDF) Ltd, Jaipur	MR J. D. SINGH
Tamil Nadu Co-op Milk Producers' Federation Limited, Chennai	MR S. R. SANKAR MR S. JEYACHANDRAN (<i>Alternate</i>)
Tetra Pak India Pvt Ltd, Pune	MR SHASHIKANT RAMNATH SURUSE MR SAMEER SINGH SUHAIL (<i>Alternate</i>)
Vimta Labs Limited, Hyderabad	DR JAGADEESH KODALI DR MUNI NAGENDRA PRASAD POOLA (<i>Alternate</i>)
BIS Directorate General	SHRIMATI SUNEETI TOTEJA, SCIENTIST 'E' AND HEAD (FAD) [REPRESENTING DIRECTOR GENERAL (<i>Ex-officio</i>)]

Member Secretary

DR BHAWANA
SCIENTIST 'D' (FAD), BIS

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<i>Organization</i>	<i>Representative(s)</i>
National Dairy Research Institute, Karnal	DR LATHA SABIKHI (<i>Convenor</i>)
Confederation of Indian Food Trade and Industry, New Delhi and Nestle India Limited, Gurugram	DR ANIRUDHA CHHONKAR
Danone India Limited, Delhi	MR VIJAY GAUR
Food Safety and Standards Authority of India, New Delhi	DR MONICA PUNIYA
Gujarat Cooperative Milk Marketing Federation Ltd Anand	MR SAMEER SAXENA
Mother Dairy Fruit and Vegetable Private Limited, Noida	DR NITA SEN
National Dairy Development Board, Anand	MR S. D. JAISINGHANI
National Dairy Research Institute, Karnal	DR VIVEK SHARMA
National Dairy Research Institute, Karnal	DR RAJESH KUMAR BAJAJ
National Dairy Research Institute, Karnal	DR KAUSHIK KHAMRUI
National Dairy Research Institute, Karnal	DR H. V. RAGHU
National Dairy Research Institute, Karnal	DR RICHA SINGH
Punjab State Cooperative Milk Producers Federation Limited, Punjab	MR SANJEEV KUMAR SHARMA

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BUREAU OF INDIAN STANDARDS

Headquarters:

Manak Bhavan, 9 Bahadur Shah Zafar Marg, New Delhi 110002

Telephones: 2323 0131, 2323 3375, 2323 9402

Website: www.bis.gov.in

Regional Offices:

	Telephones
Central : 601/A, Konnectus Tower-1, 6 th Floor, DMRC Building, Bhavbhuti Marg, New Delhi 110002	{ 2323 7617
Eastern : 8 th Floor, Plot No 7/7 & 7/8, CP Block, Sector V, Salt Lake, Kolkata, West Bengal 700091	{ 2367 0012 2320 9474
Northern : Plot No. 4-A, Sector 27-B, Madhya Marg Chandigarh 160019	{ 265 9930
Southern : C.I.T. Campus, IV Cross Road, Taramani, Chennai 600113	{ 2254 1442 2254 1216
Western : Plot No. E-9, Road No.-8, MIDC, Andheri (East), Mumbai 400093	{ 2821 8093

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